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# The Benefits and Attractiveness of Local Theatres

## Comedy or Shakespeare – Does It Matter?

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# The benefits and attractiveness of local theatres. Comedy or Shakespeare – does it matter?

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**ABSTRACT**

In most countries, cultural institutions are heavily supported by public funds. In the literature, this is explained by expected externalities, meaning that not only users, but also non-users benefit from the existence of cultural institutions. However, there is little knowledge about what these externalities consist of, and how they relate to the characteristics of the supply. The main aim of this study is to investigate the perceived benefits of theatres serving the local community, and whether the type of theatre matters. Using data from a large-scale survey conducted in Denmark in the spring of 2020, we find that the type of theatre has a significant impact on the values perceived by the users, while non-users show no preferences for the types of theatre located in the municipality. Therefore, we conclude that non-users have little understanding of the externalities provided, and the type of supply is of no consequence for non-users' valuation.

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Performing arts; non-market benefits; externalities; attractiveness; Non users; willingness-to-pay

## Introduction

In most countries, cultural institutions such as theatres are heavily supported by public funds. In the literature of cultural economics (Snowball, 2008), this is explained by expected externalities, which means that not only users, but also non-users benefit from the existence of theatres in a country or a municipality.

The majority of the literature on the performing arts concerns users' demands (e.g. Throsby (1990); Baldin and Bille (2018); Grisolía and Willis (2011a)), where the private benefits is the dominant focus. These studies are either case studies dealing with a specific theatre, e.g. the Perm Opera and Ballet Theatre (Ozhegova & Ozhegov, 2020), or they are more general studies of theatres in a country or a region (e.g. Werck and Heyndels (2007)). A few studies include the perspective of non-users (e.g. Bille Hansen (1997); Wiśniewska and Czajkowski (2019)), and show that there are substantial non-market values perceived by non-users. The use value of theatres is important for pricing, price differentiation, and consumer surplus for diverse segments of the audience, whereas

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the non-use values are related to public benefits, externalities, and arguments for public support.

However, theatres present many different types of performances, and it is reasonable to expect that the use and non-use values will depend on the types of theatres and the types of performances. To the best of our knowledge, no one has attempted to differentiate between users and non-users in terms of the benefits different types of performing arts provide.

The purpose of this study is to investigate the perceived benefits of local theatres to the population in Danish municipalities. Based on a unique dataset, the paper includes the use and the non-use values of different types of theatre. It would be expected that different types of theatres provide different types of benefits and have different roles in the municipalities. This is first tested by measuring the willingness-to-pay (WTP) for local theatres as revealed in a Contingent Valuation (CV) study, and secondly by investigating the populations' perceptions of the attractiveness of various types of theatre.

The data have been collected in a large-scale survey to a representative sample of the Danish population aged 18 years or older. A total of 4450 individuals received the survey, 1929 responded. The survey was undertaken in Denmark in the spring of 2020, and the survey data have been linked to micro data from the official registers provided by Statistics Denmark.

The article is organized as follows: Section 2 provides a review of the literature with identification of the research gap we wish to fill; Section 3 describes our data and method; Section 4 presents our analysis and results; Section 5 concludes the paper and discusses implications as well as the limitations of the study.

## Literature review

In this section we present a literature review, with identification of the research gab, we wish to fill, followed by formulation of testable hypotheses.

### *Different types of values*

Cultural institutions, such as theatres, museums, and libraries, are examples of quasi-public goods which confer direct benefits to those who uses the institutions, and furthermore are they expected to provide wider (non-use) benefits to a community as a whole. Local theatres provide clear private good benefits to attendees of a performance (Cameron, 2008). However, the individual valuation of cultural goods and services is only partially reflected in the market demand, as the cultural goods might have important non-use values (Frey & Pommerehne, 1989; Snowball, 2008). There is no uniform consensus of what the different benefits consists of, but for theatres the most commonly mentioned are:

*Use value*: Users of theaters will have benefits from their private consumption. Because ticket prices are kept low due to public subsidies, it is also expected that there will be a substantial consumer surplus related to the private use.

*Option value*: Users as well as non-users might be willing to pay an option price for keeping the theater option in the future under conditions of uncertainty about future preferences,

personal income, prices, and supply. This can in particular be expected for a specific supply, such as the local theater in the consumers' own municipality – and not to theatres in general.

Furthermore, different types of non-use values can be expected:

*Prestige value*: Cultural institutions, such as theatres, can provide a sense of pride and identity to the inhabitants in a municipality or a country, just as many takes pride in their local football teams. Furthermore, a prestigious cultural institution can be a factor in attracting visitors and thereby creating tourism benefits and related economics impact (Seaman, 2020).

*Educational values:* Theaters can provide two different forms of educational value. Firstly, the subsidized theatres can be a "test bed" for new plays and talent in the commercial theatre/TV/cinema sector. The film industry and the media utilize the acting skills and talents which are developed at theatres, so the viewers of TV drama, for example, have an indirect utility of the theatres. Secondly, theatres form part of the general education of citizens and children and can contribute towards developing new abilities and qualifications. Those who e.g. read literature or attend the performing arts can indirectly contribute to the moral knowledge by reflecting upon and engaging with societal problems. Hence, the argument is that arts consumption contributes with positive externalities by building up tolerance, acceptance, or trust within communities through on-going conversations (Klamer, 2016) and consumption of arts may increase social responsibility of individual citizens prompting them e.g. to become less likely to commit crimes (Sawers, 1993). From an economic perspective, the increase in moral behavior may strengthen social cohesion and collaboration, which are all vital for economics performance. (see e.g. Guiso et al. (2006) and Fehr (2009))

It is to be expected that different types of theatres provide different types of use and non-use values to a varying degree. Throsby (1990) has provided one of the most detailed theoretical frameworks for understanding private use benefits versus public (non-use) benefits for performing arts, differentiating between benefits to the audience, to the society and to the art form (see Table 1). The framework has been empirically tested by Wisniewska and Zawojska (2023) in a large survey among adult residents of Poland in 2018. To identify use and non-use values of different types of theatre performances, the respondents were asked to indicate which of the benefits provided in the survey were an adequate description for entertainment, drama, children's and experimental performances. Linking a single benefit to several (even all) types of performances was possible. Table 1 shows their results, indicating the benefits which at least 50% of the respondents agreed on. The results show that entertaining performance are mainly related to use values while drama provide several forms of use and non-use values. Performances for children primarily provide educational value for the youngest, and experimental performances provide different types of use and non-use values.

## *Empirical evidence of demand for different types of theatres and repertoires by users and non-users*

Several studies have investigated users' preferences and demand for theatres (Seaman (2006) provides a comprehensive review). The demand for performing arts can be affected by price, quality, type of play, and socio-economic variables such as income, gender, education level, and time availability (Grisolía & Willis, 2012). Werck and Heyndels (2007) have examined the impact on the demand for theatre productions using a panel data of 59 Flemish theatres over the period 1980–2000, and finds that theatregoers reveal

**Table 1.** Use and non-use values of different types of performances.

| | | Entertainment | Drama | Children | Experimental |
|---|---|---|---|---|---|
| Benefits to audience | Enjoyment and recreation | x | | | |
| | Psychological and emotional stimulation and fantasy | | X | | |
| | Intellectual stimulation | | X | | x |
| | Articulation and interpretation of the individual's own attitudes and experiences | | | | |
| | Active (physical) involvement of the audience | | | | x |
| | Development of artistic taste (stimulation of future attendance) | | | | x |
| Benefits to society | Attraction of new audiences (encouraging access especially amongst economically, socially or regionally disadvantaged, or having potential for media dissemination) | x | | | |
| | Promotion of social evaluation (information, controversy, critical examination of society, development of public creative ideas and aesthetic standards) | | X | | x |
| | Cultural preservation (stressing the continuity of cultural life, the preservation and dissemination of cultural heritage, e.g. maintenance of classic works in performance) | | X | | |
| | Promotion of regional or national (indigenous) identity and culture | | X | | |
| | Promotion of international understanding | | X | | |
| | Education, especially of the young | | | x | |
| Benefits to the art form | Innovation (creativity, novelty, experimentation) | | | | x |
| | Training (of performers, directors, designers, production staff, technical staff) | | X | | x |
| | Development of local creative artists (writers, choreographers, composers) | | X | | x |
| | Provision of examples of the best professional standards for the encouragement of future artists | | X | | |
| | Potential for touring interstate or overseas. | | X | | |

Source: Throsby (1990, pp. 68–69) and Wisniewska and Zawojska (2023).

a preference for productions with a larger cast, Dutch-speaking playwrights, and revivals of older productions rather than new productions. Grisolía and Willis (2011b) finds in their study of Northern Stage theatre in Newcastle, UK, that the smallest contribution to the users' utility comes from experimental theatre, which is a more difficult type of play to appreciate and therefore less popular. Throsby (1990), Abbé-Decarroux (1994), Urrutiaguer (2002), O'Hagan and Zieba (2010) and Baldin and Bille (2018) are other examples of theatre demand studies that include a classification of type of play or repertoire (for an overview see Zieba (2020)). Willis et al. (2012) emphasize that the consumer surplus derived from revealed preference data relates to use value only, and that the local community may have some non-use value. The authors thus point to the central limitation of these types of studies, namely that they only inform us about the users' preferences and values for different types of theatre performances.

To include non-users' valuations some non-market valuation technique needs to be applied. The Contingent Valuation Method (CVM) is a commonly applied stated preference technique, which is based on declared choices in a hypothetical situation described in a questionnaire (Cuccia, 2020; Noonan, 2003; Snowball, 2008). The method is designed to elicit the total value of a (public) good. Noonan (2003) has provided a review of about 130 contingent valuation studies undertaken within cultural economics. The studies cover

a broad range of cultural goods, such as: archeological sites, arts, broadcasting, performing arts, heritage, museums, libraries, and sports. It is interesting to notice, that none of the studies are especially concerned with the specific types of externalities or non-use values these cultural goods provide. For instance, most studies ask about the value of institutions, without specifying the values further or more explicitly than that.

The reason is mainly, that decomposition of the total value into different benefit categories has come with huge challenges. The literature (see e.g. Lawton et al. (2022)) elucidates the many challenges faced when attempting to use self-reported motivations to identify different types of values, often referred to as "the fallacy of motivational precision" (Mitchell & Carson, 1989). In other words: The valuation literature has provided insight into the total value of different types of cultural goods, but the total value has seldom been divided into different components.

The repertoire of the theatres has not been a direct focus in the large majority of the non-market studies of theatres. A notable exception is Wiśniewska and Czajkowski (2019), who examine willingness-to-pay for a programme of discounted tickets in municipal theatres in the polish capital Warsaw. The survey was conducted by a polling agency and included 1700 respondents, a representative sample of the inhabitants of Warsaw above the age of 18. They find that inhabitants assign a positive value to the broader accessibility of the theatres, and that the cost–benefit relationship varies across theatres with different types of plays in their repertories. The same division of theatre categories as above (see Table 1) were used: *Entertainment theatres* (mostly comedies and musical performances), *drama theatres* (dramas and more ambitious comedies), *theatre for children* (mostly puppet performances and fairy tales) and *experimental theatres* (employ new techniques, often producing plays of contemporary dramatists, which some might consider controversial). Wiśniewska and Czajkowski find that the entertainment theatres have the highest mean WTP (8.8 € per year on average), followed by drama (5.5 €), childrens' (3.1 €) and experimental theatres (2.5 €).

Wiśniewska and Czajkowski (2019) include data on users and non-users of theatres in their study, but do not apply this information. In their suggestions for further research, they note that the division between use and non-use values in different types of theatres could be examined more closely. They note that it would be particularly interesting to investigate the extent to which WTP is driven by the explicit desire to visit a particular type of theatre and to what extent is it motivated by non-use reasons. It could, moreover, be expected that different types of theatres provide different types of values and are associated with varying shares of non-use values (or positive externalities).

## Hypotheses

Our study follows up on these expectations and investigates if different types of theatres provide different diverse types of benefits to users and non-users. Following Wiśniewska and Czajkowski (2019) application of Throsby's (1990) framework, we will expect that entertainment performances only benefit users by providing enjoyment and amusement. Drama performances, mostly classical plays, provide several use and non-use values, among other things by serving cultural preservation and promotion of national identity. Children's performances mostly play an educational role for the youngest audience, and experimental performances provide intellectual stimulation and theatrical innovation. We

will therefore expect that only users will benefit from entertainment performances, while drama, children's performances, and experimental performance will have wider impact on society, creating e.g. identity, educational value, innovation, and aesthetic values, from which not only the users, but also the non-users can benefit. Based on these expectations we can formulate the following hypotheses:

*$H_1$: Only the users will benefit from theaters providing pure entertainment as no wider impacts on society are expected.*

*$H_2$: Both users and non-users of theaters will benefit from theaters performances which have wider impacts on the society, e.g. in the form of educational benefits, prestige identity, innovation, and aesthetic benefits.*

## Data and method

In this section, the survey data as well as data on the Danish theatres are presented.

### *Survey data*

The study is based on data from a large survey. The survey was conducted in Denmark in the spring of 2020, distributed to a representative sample of the Danish population aged 18 years or older. Statistics Denmark drew the sample and distributed the survey. In total, 4450 individuals received the survey, of which 1929 responded. The survey data have been linked to micro data from the official registers, providing information about the respondents' income, age, gender, occupation, civil status, etc. The link between register data and questionnaire data offers a wide range of benefits. Firstly, register data gives access to concrete information on a large number of variables, such as the respondents' income, education, etc., rendering it unnecessary to ask about these details. Part of the uncertainty around the use of questionnaires, in which respondents must remember and state their income etc. accurately, is thereby eliminated. Secondly, the link provides unique opportunities for conducting dropout tests since a wide range of basic information will be available, also for those respondents who have not answered the questionnaire. Subsequent tests have shown minor biases in dropout, and therefore the answers have been weighted so that they are representative of the Danish population; Statistics Denmark undertook this weighting.[1]

The first part of the survey asks about the degree to which respondents engage with theatres. The questionnaire contains two different questions: one that ask about the last time the respondents have been to a theatre, and another that asks about the last time they have been to the local theatre in their municipality. In Section 4.1 user status refers to users of local theatres, while in Section 4.2 it refers to users of theatres in general. Furthermore, respondents were asked to rate a number of different statements concerning the role of theatres in Denmark, on a scale of 1 (strongly disagree) to 5 (strongly agree). Some of the statements refer generically to theatres in Denmark, but one statement is directly related to local theatres: *The theatre(s) in my municipality make the municipality attractive to live in*.

Prior to the WTP questions, the respondents were given the following information about public supported theatres in Denmark:

*Of the public subsidies to theaters and performing arts, 35% is allocated to the Royal Danish Theater and 45% is direct subsidies to the other publicly supported theatres. The last 20 per cent goes to various other projects and activities*.

*If we exclude the Royal Danish Theater in Copenhagen, which has a special status, there are 189 publicly supported theater groups and theaters in Denmark, and there are in total 1.9 million visits to these theaters per year. It covers everything from the large regional theatres to small metropolitan theatres, local theatres, local small operating-supported theaters without permanent stages and theater associations that do not produce performances themselves, but show performances produced by other theatres*.

*The theaters are partly financed by own income (ticket income and, for example, private sponsors) (12%), and partly by public subsidies from the state (44%) and the municipalities (23%). The theaters can generally not survive without public subsidies. The direct public subsidies (from the state and the municipalities) to the theaters corresponds to approximately DKK 140 per year on average per taxable Dane, when we exclude the Royal Danish Theater*.

The WTP scenario was formulated in relation to the local theatre(s) in the respondents' own municipality to make it more relatable and simpler for the respondents in order to increase the validity of the scenario. The respondents were given the following information concerning the local theatres:

*Local theaters are professionally producing theaters outside the five biggest municipalities in Denmark: Copenhagen, Frederiksberg, Odense, Aarhus and Aalborg. They have the obligation to produce at least two new theatre productions per year. The local theaters receive support from their home municipality, and the state reimburses up to 50% of the municipalities' operating subsidies to the local theatres. There are in total 32 local theaters in Denmark. There is a local theatre in your municipality, namely (name of the theatre)*.

The valuation scenario was formulated in relation to the risk that the local theatre could close due to the loss in income during the Covid-19 crises, and the WTP question was formulated like this: *What is the maximum amount you are willing to pay per year via your personal income tax for the theatre in your municipality?*

Two elicitation formats were used in the survey, using a split sample. Half of the sample got the WTP questions as open-ended questions, and the other half got payment cards. Payment cards result in a slightly higher WTP than open-ended questions, and the elicitation format is included in the estimations as a control variable. The payment format is tax payments, as taxation is the current financing model for Danish theatres, and because we want to measure the total economic value, including the non-market values and the value to non-users. To avoid anchoring bias, no information was given about the average amount the taxpayers in the municipality were paying though taxes to their local theatre. However, as noted above the respondents have already got information about the average tax payments to theatres per taxable Dane. This information could potentially help the respondents in the valuation process.

The design of the questions is based on current guidelines for CV studies (Johnston et al., 2017). This includes a "cheap talk" where respondents are made aware of their budget constraint,[2] as well as additional follow up questions which aims to detect, among other things, warm glow effect, strategic behavior and protest zeros, and the data has been cleaned accordingly. Before being sent out to the full sample, the questionnaire was tested in five focus groups to examine whether respondents understood the questions correctly, and it was corrected accordingly.

**Table 2.** Variables used in analysis.

| | Variable | Type | Description |
|---|---|---|---|
| Individual background variables (micro data) | Gender | Dummy | Male, female |
| | Age | Continuous | Age 18 < |
| | Education | Dummy | (1) Basic school and upper secondary (2) higher education |
| | Income | Continuous | Personal income, 1,000 DKK |
| | Marital status | Dummy | (1) Unmarried, divorced, widowed (2) married/partnership |
| | No. of children | Continuous | Number of children in family |
| | Distance | Continuous | Distance to the Capital Region, measured as the shortest distance (straight line) in kilometers between the centre of the municipality and the centre of Copenhagen[11] |
| Survey questions | User status | Dummy | (1) Have visited a theatre (the local theatre) in the past 12 months (recent users), (2) it has been more than 12 months since last visit (past users), (3) never visit the theatre (non-users) |
| | WTP | Continuous | Response in DKK to the question |
| | Attractiveness | Dummy | Scale from 1 = strongly disagree to 5 = strongly agree with the statement: *The theater(s) in my municipality contributes to making the municipality attractive to live in.* |
| | Elicitation format | Dummy | Open-ended/payment card |
| Theatres in municipality (register data) | Number of theatres | Continuous | Number of theatres in municipality |
| | Repertoire | Dummy | Repertoire of theatre (drama, children, dance, experimental, comedy, not categorized) |
| | Category | Dummy | Category of theatre (small, theatre association, large, local theatre) |

Table 2 shows the variables used in the analysis.

48% of the sample state they have visited a theatre during the past year; these can be considered *recent users*. 32% had visited a theatre, but it had been more than 12 months since their last visit; this group is termed *past users*. 21% have never visited a theatre and can be considered *non-users*. Table A1 in the appendix presents descriptive statistics of the sample, divided by user status. It shows that the users, as expected, generally have a higher education, higher income, are women, and are married/in a partnership.

## *The theatre landscape in Denmark and indicators for expected benefits*

There are 296 theatres in Denmark. As Table 3 shows, 182 of these have "drama" as the main repertoire and are located in 64 different municipalities. 51 theatres have a repertoire directed towards children, located in 20 different municipalities.[3] There are also theatres with dance (19), experimental (17) and comedy (10) as their main repertoire. 87% of

**Table 3.** Repertoire of Danish theatres.

| Repertoire | No. of theatres | No. of municipalities | % of sample |
|---|---|---|---|
| Drama | 182 | 64 | 80.8 |
| Childrens' | 51 | 20 | 36.8 |
| Dance | 19 | 5 | 21.5 |
| Experimental | 17 | 3 | 18.5 |
| Comedy | 10 | 6 | 15.7 |
| Not categorized | 17 | 8 | 21.5 |
| Total | 296 | 64 | |

Source: Statistics Denmark.

the sample (1672 respondents) live in a municipality with a theatre. As Table 3 shows, most of these (81% of the total sample) live in a municipality with a theatre presenting "drama" as its main repertoire.

Following the framework of Throsby (1990) and Wisniewska and Zawojska (2023) in Table 1, we will expect that only users will benefit from entertainment performances (comedy), while drama, children's performances, and experimental performance will have wider impact on society, creating e.g. identity, educational value, innovation, and aesthetic values, from which not only the users, but also the non-users can benefit (externalities).

The allocation of theatres across regions and municipalities in Denmark are show in Figure 1.

Another way in which to group the theatres is to do so by category, as in Table 4. There are 187 theatres in the "small theater" category.[4] Many of these are located in the large cities and are thus only represented in 35 municipalities. These theatres are often specialized or experimental. The 10 "large" theatres are located in the urban municipalities, including 3 large regional theatres (*landsdelscener*) located in Aalborg, Aarhus and Odense. The 65 theatre associations (*teaterforeninger*) are more evenly distributed across the country, located in 61 municipalities. They are not professional producing theatres, but local associations that mediate and host touring performances from a large number of producing theatres (including the national stage: The Royal Danish Theater in Copenhagen). Finally, there are 32 local theatres (*egnsteatre*) in Denmark, which, as already mentioned, are professional producing theatres located outside the largest Danish cities.[5] Almost all the local theatres have the same overall repertoire, namely drama.

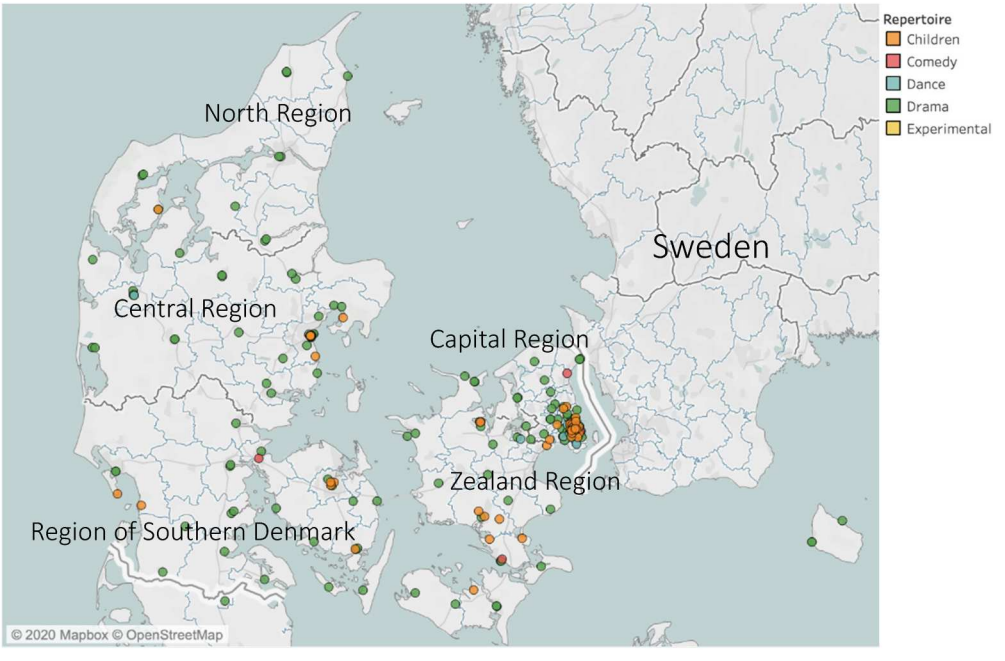


**Figure 1.** Allocation of theatres in Denmark.

**Table 4.** Categories of theatres in Denmark.

| Category | No. of theatres | No. of municipalities | % of sample |
|---|---|---|---|
| Small theatres | 187 | 35 | 54.5 |
| Theatre associations | 65 | 61 | 75.6 |
| Large theatres | 10 | 5 | 25.8 |
| Local theaters | 32 | 30 | 30.7 |
| Total | 296 | 64 | |

Source: Statistics Denmark.

Even though it is difficult to categorize the types of benefits the theatres provide based on the categories of theatres, we would expect the theatre associations to provide more benefits to the users by staging bigger and more entertaining performances. On the other hand, the small theatres, and especially the local theatres, can be expected to provide a higher degree of innovation as well as a sense of identity and community, and thereby more benefits to the non-users. In other words, we will expect theatre associations and to some extent large theatres are providing more benefits to the users, while small theatres and local theatres to provide more benefits to the community (non-use values).

## Analysis and results

In this section, we will investigate the perceived benefits of having local theatres in the community and whether the type of theatre matters. We also wish to investigate whether users and non-users perceive different types of benefits. In Section 4.1 we analyze the WTP for professional local theatres (egnsteatre) and how it related to user status and perceived attractiveness. As the local theatres are all of the same type (most of them with drama as the main repertoire) it is not possible to analyze the WTP in relation to type of theatres. In Section 4.2 we therefore analyze the perceived attractiveness of the theatres in the respondents' municipalities based on the theatres' repertoire and categories.

### *Willingness-to-pay for local theatres*

The respondents were asked if they were in favour of supporting theatres via their taxes: 78% of the total sample had a positive attitude to paying for the theatres via their own taxes. These were then asked several questions about how much they were willing to pay. Respondents living in municipalities with local theatres were also asked about their willingness-to-pay for their local theatre.

Table 5 shows, not surprisingly, that recent users have the highest willingness-to-pay, and non-users the lowest. The recent users' mean WTP equals 20 €,[6] past users' mean WTP equals 16 €, and non-users' mean WTP equals 10 €.

**Table 5.** WTP for local theatres and user status, DKK. Weighted average.

| | Min | Mean | Median | Max | Std Dev | N |
|---|---|---|---|---|---|---|
| WTP recent users | 0 | 153 | 75 | 875 | 203 | 44 |
| WTP past users | 0 | 122 | 75 | 2,000 | 247 | 88 |
| WTP non-users | 0 | 76 | 30 | 650 | 127 | 137 |

**Table 6.** Willingness-to-pay for local theatres, DKK.

| | All |
|---|---|
| **Attractiveness: Strongly disagree** | **−233.3**** |
| | **(95.1)** |
| **Attractiveness: Disagree** | **−99.8**** |
| | **(49.7)** |
| **Attractiveness: Neither agree nor disagree** | **-** |
| **Attractiveness: Agree** | **106.8**** |
| | **(51.3)** |
| **Attractiveness: Strongly agree** | **212.6***** **(62.6)** |
| **User: Recent** | **-** |
| **User: Past** | **−26.4** |
| | **(37.8)** |
| **User: Non** | **−159.0***** |
| | **(59.0)** |
| Number of theatres | −8.9 |
| | (6.5) |
| Elicitation format (open ended) | −5.8 |
| | (46.0) |
| Gender (male) | −81.8** |
| | (37.3) |
| Age | 4.0*** |
| | (1.4) |
| Education (higher) | 98.0*** |
| | (35.5) |
| Income (1,000 DKK) | 0.1 (1.8) |
| Marital status (married/partnership) | −23.8 |
| | (32.4) |
| No. of children | 23.5 |
| | (22.6) |
| Distance to Copenhagen | −260.5 |
| | (248.0) |
| Constant | −364.9** |
| | (155.8) |
| Log-likelihood | 93,736.6*** (28,420.2) |
| N | 509 |
| Pseudo $R^2$ | 0.05 |

Notes: Dependent variable: WTP in DKK (*What is the maximum amount you are willing to pay per year via your personal income tax for the theatre in your municipality?*) Tobit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

In Table 6, we use the stated WTP for local theatres as dependent variable and a number of control variables describing individual socio-economic and community characteristics in a Tobit analysis. Tobit models (Wooldridge, 2016) are commonly used in estimations of WTP, due to the dependent variable being censored with many zero bids.

The questionnaire included the statement *The theatre/s in my municipality contributes to making the municipality attractive to live in*. This is added as a dummy variable in the model. The results show that there is a positive and significant association between the view of attractiveness and stated WTP for local theatres. Individuals agreeing to the statement had significantly higher WTP than individuals disagreeing.

Likewise, user-status is added as dummy. The results confirm that non-users have significantly lower WTP for local theatres. The past users also have lower WTP in comparison with recent users, but the difference is not significant. The results thus indicate that user status is of high significance in how local theatres are valued.

A number of control variables are included in the model. Most municipalities have only one local theatre,[7] but there can be other types of theatres in a municipality (see all the

categories in Table 3). The number of theatres in the community might affect the stated WTP for the local theatre. The results show a slightly negative (but insignificant) association with WTP, meaning that if there are several theatres in a municipality, the WTP for the local theatre is smaller.

Furthermore, the results show that men have a significantly lower WTP for local theatres. Stated WPT also significantly increases with age. The higher educated part of the population has significantly higher WTP, while income is insignificant. The controls show a pattern that is consistent with the findings of previous studies, helping to confirm the validity of the results.

We have included an indicator that describes distance to Copenhagen from the individuals' municipality of residence. The variable is added to test how the valuation of theatres might differ according to location of residence. Individuals living far from urban amenities, measured as distance to the capital Copenhagen can be expected to have a lower preference for cultural goods and services. At the same time, they might also attach a relatively higher value on the (fewer) cultural institutions that are present in the community. The results are not significant.

In appendix A2 we have included a correlation table. Here we can see that many of the individual and regional indicators are correlated. The variables have been carefully tested in a stepwise inclusion of the indicators in the model, and by using the STATA command "collin". An original indicator of age$^2$ have been removed from the model due to high collinearly. A mean VIF of 1,22 indicates moderate multicollinearity, and it is not suspected that the presence of the remaining variables is distorting the main results.[8]

## *Attractiveness*

The second part of the analysis explores the connection between attractiveness and types of theatres. The respondents were asked if they agreed or disagreed with the statement: *The theatre/s in my municipality contributes to making the municipality attractive to live in.* The majority, 51%, agreed that the theatre/s contributes to the attractiveness of the municipality. The recent users of theatres responded most positively with 61% agreeing to the statement.

To investigate the significance of the types of theatres located in a municipality in terms of repertoire, we have conducted an ordered logit regression in which the variable indicating the degree to which theatres contribute to attractiveness of the municipality is used as dependent variable. An ordered-logit model is used due to the dependent variable being a Likert-scale going from 1 = strongly disagree to 5 = strongly agree.

Repertoire is indicated by separate dummies, as there can be more than one type of theatre in the same municipality.[9] The results show that respondents living in municipalities with theatres performing "drama", "comedy" and "experimental theater" are significantly more positive in the way they see the theatres' contributions to the attractiveness of the municipality.

The controls behave as expected, and similar to the results described in Table 6.

To test our hypotheses, we have conducted separate analyses of users and non-users. The patterns for recent users and past users alike are similar to the main results. It is interesting to notice that past users are more interested in experimental theatre, perhaps

because they are aware of the non-market benefits, without being a current user themselves.

The results for the non-users show no significant association between repertoire of theatres and how the theatres are viewed in terms of contributing to attractiveness of the municipality. The analysis thus indicates that the link between repertoire and attractiveness is primarily explained by user status. We also find a positive and significant association between attractiveness and distance, indicating that users living far from Copenhagen are more positive in their view of how the theatres contribute to the attractiveness of the municipality.

As a robustness test, we have excluded respondents living in the three urban municipalities of Copenhagen, Frederiksberg, and Aarhus (see Table A3 in the appendix). This excludes the category of theatres with an experimental repertoire, since there are none outside the biggest cities, but otherwise the results confirm the main results in Table 7.

In Table 8 we have used category of theatres as an alternative to repertoire.[10] The main results show that large theatres and theatre associations are positively associated with attractiveness. When excluding the biggest cities (see Table A4 in the appendix), only

**Table 7.** Attractiveness of municipality and theatre repertoire.

| | All | Users | Past users | Non-users |
|---|---|---|---|---|
| **Repertoire: Drama** | **0.77*** ** | **1.11*** ** | **0.89*** ** | **0.25** |
| | **(0.18)** | **(0.23)** | **(0.28)** | **(0.34)** |
| **Repertoire: Children's** | **0.08** | **0.02** | **0.31*** | **0.10** |
| | **(0.15)** | **(0.26)** | **(0.19)** | **(0.36)** |
| **Repertoire: Dance** | **−0.09** | **0.22** | **−0.62** | **0.53** |
| | **(0.14)** | **(0.36)** | **(0.38)** | **(0.40)** |
| **Repertoire: Comedy** | **0.50*** ** | **0.99*** ** | **0.79*** | **−0.63** |
| | **(0.16)** | **(0.33)** | **(0.46)** | **(0.41)** |
| **Repertoire: Experimental** | **0.80*** ** | **0.65** ** | **1.33*** ** | **−0.63** |
| | **(0.14)** | **(0.31)** | **(0.29)** | **(0.54)** |
| Number of theatres | 0.00 | −0.00 | −0.00 | 0.01** |
| | (0.00) | (0.00) | (0.00) | (0.01) |
| Gender (male) | −0.50*** | −0.43*** | −0.55*** | −0.37* |
| | (0.10) | (0.14) | (0.19) | (0.21) |
| Age | 0.02*** | 0.02*** | 0.04*** | 0.02*** |
| | (0.00) | (0.01) | (0.01) | (0.01) |
| Education (higher) | 0.12 | 0.10 | 0.36** | 0.02 |
| | (0.10) | (0.13) | (0.17) | (0.33) |
| Income (1,000 DKK) | −0.01 | −0.00 | −0.15*** | 0.06 |
| | (0.02) | (0.02) | (0.05) | (0.11) |
| Marital status (married/partnership) | −0.01 | −0.24 | 0.38** | −0.02 |
| | (0.10) | (0.15) | (0.18) | (0.24) |
| No. of children | 0.01 | −0.04 | 0.08 | 0.14 |
| | (0.06) | (0.08) | (0.09) | (0.12) |
| Distance to Copenhagen | 3.00** | 4.81*** | 2.04*** | 0.57 |
| | (0.87) | (1.14) | (1.19) | (1.91) |
| **User: Recent** | - | | | |
| **User: Past** | **−0.40*** ** | | | |
| | **(0.11)** | | | |
| **User: Non** | **−1.34*** ** | | | |
| | **(0.17)** | | | |
| N | 1,503 | 742 | 475 | 286 |
| Pseudo $R^2$ | 0.08 | 0.07 | 0.08 | 0.02 |

Note. Dependent variable: Scale from 5 = strongly agree to 1 = strongly disagree with the statement *The theatre/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

**Table 8.** Attractiveness of municipalities and category of theatre.

| | All | Users | Past users | Non-users |
|---|---|---|---|---|
| **Category: Small theatres** | **0.18 (0.16)** | **0.18 (0.20)** | **0.16 (0.20)** | **0.28 (0.40)** |
| **Category: Large theatres** | **0.76*** (0.28)** | **1.10*** (0.36)** | **0.78** (0.39)** | **−0.21 (0.52)** |
| **Category: Theatre associations** | **0.37** (0.19)** | **0.43* (0.23)** | **0.56** (0.25)** | **0.27 (0.30)** |
| **Category: Local theatres** | **0.25 (0.17)** | **0.27 (0.24)** | **0.21 (0.22)** | **0.14 (0.36)** |
| Number of theatres | 0.01** (0.00) | 0.01 (0.00) | 0.01 (0.00) | 0.01 (0.01) |
| Individual characteristics | Yes | Yes | Yes | Yes |
| Distance | 2.27** | 3.16** | 1.69 | 1.15 |
| | (0.96) | (1.26) | (1.36) | (2.10) |
| **User: Recent** | - | | | |
| **User: Past** | **−0.43*** | | | |
| | **(0.11)** | | | |
| **User: Non** | **−1.35*** | | | |
| | **(0.16)** | | | |
| N | 1,503 | 742 | 475 | 286 |
| Pseudo $R^2$ | 0.07 | 0.06 | 0.07 | 0.02 |

Note: Dependent variable: Scale from 5 = strongly agree to 1 = strongly disagree with the statement. *The theatre/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies.

the results for theatre associations remain significant. The full table and marginal effects are not reported but show a pattern similar to the previous tables.

In the last columns of Table 7 the results of separate analyses for users and non-users to test our hypothesis. There is no significant association between category of theatres in the community and how non-users view them as contributing to the attractiveness of the municipality. Theatre associations and large theatres are positive significantly for recent and past users. Non-users do not seem to be affected by the types of theatres in the municipality.

## Discussion and conclusion

While consumer externalities are the dominant argument for public subsidies to the performing arts, there is little knowledge about what exactly these externalities consist of, and how they relate to characteristics of the supply of cultural institutions. Theatres (and other cultural institutions) present many different types of performances, and it is reasonable to expect that the size of the use and non-use values will depend on the types of theatres and performances provided. While it can be expected that some performances exclusively provide pure entertainment to the users, other types of theatres can be expected to provide larger externalities in terms of benefits to non-users, e.g. by providing enhanced prestige, identity or educational values to the community. The main aim of this study is to investigate the perceived benefits of theatres serving the local community, and whether the type of theatre matters.

We have used repertoires and classification of type of theatre as broad indicators of the types of benefits the theatres provide. These indicators are, of course, only rough indicators, but they are the only indicators available.

In line with Wiśniewska and Czajkowski's (2019), we have assumed that entertainment performances amuse and relax. Drama performances, mostly classical plays, serve cultural

preservation and promotion of national identity. Performances for children mostly play an educational role for the youngest audience, and experimental performances provide intellectual stimulation and theatrical innovation. Based on these assumptions, we expect that only users will benefit from entertainment performances, while drama, performances for children, and experimental performances will have wider impacts on the society in the form of identity value, educational value, innovation, and aesthetic values, from which not only users, but also non-users can benefit (externalities). Furthermore, we expect that small theatres and local theatres are more experimental and locally based, producing more externalities in the form of e.g. innovation and identity, and large theatres are expected to produce more prestige to the community. On the other hand, theatre associations and to some degree large theatres catering more for the users and thereby producing a higher degree of use value.

The first part of our analysis concerns willingness-to-pay for local theatres and indicates that the non-use value of theatres is important, as many other empirical studies have shown (Bille Hansen, 1997; Noonan, 2003; Snowball, 2008). The results also show that user status is of high significance in how local theatres are valued. Recent users have a significantly higher WTP for local theatres in comparison with non-users. As the local theatres, which are the empirical object of this analysis, fall into the same broad category of theatres, it is not possible to divide these benefits based on repertoire.

The second part of the analysis explores the connection between attractiveness and repertoire and types of theatres. The results show that type of theatre and repertoire have a significant impact on the benefits perceived by the users, while non-users show no preferences for the types of theatre located in the municipality. There is no significant correlation between repertoire/category of theatres and how non-users view the theatres' contribution to the attractiveness of the municipality. Returning to our hypotheses, this means $H_1$ cannot be rejected, as users are significantly more interested in the types of theatres which we would expect to produce relatively more use value, namely "theater associations" and to some degree "large theaters". Furthermore, users are more interested in "comedy", "drama" and "experimental" performances, which are expected to produce several types of use values. There are no significant differences between types of theatres for the non-user, which means that $H_2$ can be rejected, and the expected externalities are not a pronounced factor for the non-users' evaluation.

In other words, only users are influenced by the types of theatres, and among the users we find that theatres with a broader, traditional repertoire and revivals (theatre associations) seem to be most highly valued. This interpretation is in line with Werck and Heyndels (2007), a study that found the public revealed a preference for productions with a larger cast, plays in national language, and revivals rather than new plays. It is also in line with the Wiśniewska and Czajkowski (2019) finding that entertainment and drama theatres had the highest mean WTP, and experimental and performance for children the lowest.

The main contribution of our paper is that even though we can confirm that non-users are in favour of supporting the theatres via their taxes, the type of supply is of no consequence for non-users' valuation. This is an interesting new finding, with wider implications for valuation studies in particular, and cultural policy in general.

Firstly, the result raises questions about the use of stated preference methods in valuation of performing arts and other cultural institutions. Stated preference

methods build on the assumption that respondents understand and have full information about the good to be assessed, including an understanding of the externalities provided, in order to make their evaluation. Our study shows that this may not be the case, as the type of theatre and supply have no significant impact on non-users' assessments.

Secondly, if cultural policy decisions are based on the assumption of consumer externalities (as the theoretical argument), other types of studies are needed in order to assess the benefits to non-users. Our study is, however, only the first step in analyzing the various public and non-use benefits that cultural institutions represent, and the distinction between different kinds of values and benefits needs to be further conceptualized in future studies.

We have used repertoire and classification of types of theatre as broad indicators of the types of benefits the theatres provide. These indicators are, of course, only rough indicators, and the main limitation of our study. Having better indicators for the benefits (externalities) provided by the various theatres would have increased the reliability of our study. Finding better indicators of externalities is a major challenge and an important task for future research.

## Notes

1. The weighting is based on the GREG model (Generalised Regression Estimator).
2. "Remember to take into account your income situation when you answer the questions and be sure that you are actually both able to and want to pay the amount you state. Remember that the money you are willing to pay for the theaters via taxes could alternatively have been used for other public purposes, or could have been used for your private consumption, such as buying food, clothes, a visit to the cinema, or other things".
3. Many of the theaters for children are located in Copenhagen.
4. In Danish: Projektstøttede teatre, driftsstøttede teatre, små storbysteatre.
5. Copenhagen, Frederiksberg, Odense, Aarhus, and Aalborg.
6. An exchange rate of 7.5 is used (15.6.2020. Source: https://www.valuta-kurser.no/75.9-dkk-til-eur)
7. Four municipalities have more than one local theatre: Herning, Holbæk, Roskilde have two; Holstebro has three.
8. Furthermore, we have run a test of heteroscedasticity, showing heteroscedasticity. However, all estimations are run with a "robust" command in order to provide robust standard errors.
9. As an alternative specification, we have in unreported estimations used number of theaters with different types of repertoires, instead of dummies indicating the presence of the different types of theaters. However, the number of theatres of each type are highly correlated creating serious problems in the estimations. This was also the case if we use the number of theaters per inhabitant. Therefore, we prefer to use dummies indication the presence of different types of theatre in the municipalities.
10. As an alternative specification, we have in unreported estimations used number of theaters of different categories, instead of dummies. However, the number of theatres in each category are highly correlated creating serious problems in the estimations. This was also the case if we use the number of theaters per inhabitant. Therefore, we prefer to use dummies indication the presence of different categories of theatre in the municipalities.
11. Source: Distance Calculator www.distance.to.

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## Appendixes

**Table A1.** Descriptive statistics of the sample.

| | Total | Recent users | Past users | Non-users |
|---|---|---|---|---|
| **Age distribution (%)** | | | | |
| 18–34 | 26.6 | 27.5 | 28.6 | 22.1 |
| 35–54 | 31.8 | 30.2 | 35.5 | 29.4 |
| 55–74 | 30.2 | 31.7 | 25.6 | 34.1 |
| 75 < | 11.4 | 10.6 | 10.4 | 14.4 |
| **Educational distribution (%)** | | | | |
| Basic school | 25.1 | 20.2 | 23.6 | 36.5 |
| Secondary education | 41.9 | 38.4 | 44.3 | 45.5 |
| Higher education | 33.0 | 41.5 | 32.1 | 18.1 |
| **Gender (%)** | | | | |
| Women | 52.0 | 56.5 | 51.9 | 43.4 |
| Men | 48.0 | 43.5 | 48.1 | 56.6 |
| **Marital status (%)** | | | | |
| Unmarried | 34.0 | 32.7 | 37.7 | 31.1 |
| Married/registered partnership/separated | 52.6 | 47.1 | 50.0 | 50.2 |
| Divorced | 10.4 | 10.2 | 10.2 | 11.3 |
| Widowed | 4.5 | 5.0 | 7.7 | 5.4 |
| **Average income 2018, DKK** | 334,015.8 | 386,463.5 | 308,183.4 | 270,398.3 |
| **Average no. children living at home** | 0.6 | 0.6 | 0.7 | 0.6 |
| **Sample size** | 1,929 | 864 | 576 | 378 |

**Table A2.** Correlation table.

| | WTP | Attract. | Number of theatres | Payment option | Gender | Age | Education | Income | Marital status | No.of. children | Distance | User status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WTP | 1.00 | | | | | | | | | | | |
| Attractiveness | 0.24* | 1.00 | | | | | | | | | | |
| Number of theatres | −0.06 | 0.17* | 1.00 | | | | | | | | | |
| Payment option | −0.01 | −0.01 | −0.02 | 1 | | | | | | | | |
| Gender | −0.08* | −0.14* | 0.05* | −0.01 | 1 | | | | | | | |
| Age | 0.14* | 0.14* | −0.16* | −0.03 | 0.00 | 1 | | | | | | |
| Education | 0.14* | 0.11* | 0.13* | 0.02 | −0.08* | 0.00 | 1 | | | | | |
| Income | 0.05 | 0.01 | 0.05* | 0.04 | 0.12* | 0.08* | 0.25* | 1 | | | | |
| Marital status | 0.06 | 0.00 | −0.14* | −0.04 | 0.05* | 0.33* | 0.08* | 0.11* | 1 | | | |
| No. of children | −0.01 | −0.09* | −0.06* | 0.03 | −0.02 | −0.43* | 0.11* | 0.07* | 0.09* | 1 | | |
| Distance | −0.02 | −0.02 | −0.44* | −0.02 | 0.01 | 0.02 | −0.11* | −0.09* | 0.01 | −0.03 | 1 | |
| User status | −0.19* | −0.28* | −0.10* | −0.03 | 0.12* | 0.03 | −0.22* | −0.14* | −0.04 | −0.01 | 0.14* | 1 |

**Table A3.** Attractiveness of municipality and repertoire of theatre (excluding Copenhagen, Frederiksberg, and Aarhus).

| Attractiveness | All | Users | Past users | Non-users |
|---|---|---|---|---|
| **Repertoire: Drama** | **0.69*** ** | **0.96*** ** | **0.76** ** | **0.38** |
| | **(0.19)** | **(0.23)** | **(0.30)** | **(0.37)** |
| **Repertoire: Childrens'** | **−0,14** | **−0,32** | **0,01** | **0,17** |
| | **(0.22)** | **(0.34)** | **(0.24)** | **(0.43)** |
| **Repertoire: Dance** | **−0.16** | **0.17** | **−0.70*** | **0.22** |
| | **(0.17)** | **(0.41)** | **(0.40)** | **(0.40)** |
| **Repertoire: Comedy** | **0.53*** ** | **0.92*** ** | **0.95*** | **−0.40** |
| | **(0.16)** | **(0.28)** | **(0.57)** | **(0.36)** |
| **Repertoire: Experimental** | - | - | - | - |
| Number of theatres | 0.06** | 0.10*** | 0.08* | −0.05 |
| | (0.03) | (0.04) | (0.04) | (0.06) |
| Individual characteristics | Yes | Yes | Yes | Yes |
| Distance to Copenhagen | 2.93*** | 4.85*** | 1.94 | 0.07 |
| | (0.92) | (1.19) | (1.25) | (2.00) |
| **User: Recent** | - | | | |
| **User: Past** | **−0.33*** ** | | | |
| | **(0.13)** | | | |
| **User: Non** | **−1.18*** ** | | | |
| | **(0.17)** | | | |
| N | 1,194 | 543 | 400 | 251 |
| Pseudo $R^2$ | 0.06 | 0.06 | 0.08 | 0.01 |

Notes: Dependent variable: Scale from 5 = strongly agree to 1 = strongly disagree with the statement. *The* theatre*/s in my municipality contributes to making the municipality attractive to live in.* Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies. Respondents living in Copenhagen, Frederiksberg, and Aarhus excluded from the sample.

**Table A4.** Attractiveness of municipality and categories of theatres (excluding Copenhagen, Frederiksberg, and Aarhus).

| | All | Users | Past users | Non-users |
|---|---|---|---|---|
| **Category: Small theatres** | **0.15 (0.17)** | **0.19 (0.20)** | **−0.05 (0.20)** | **0.28 (0.40)** |
| **Category: Large theatres** | **0.27 (0.25)** | **0.54*** **(0.31)** | **−0.35 (0.33)** | **−0.21 (0.52)** |
| **Category: Theatre associations** | **0.47**** **(0.20)** | **0.65***** **(0.24)** | **0.67***** **(0.26)** | **0.27 (0.30)** |
| **Category: Local theatres** | **0.13 (0.29)** | **0.09 (0.26)** | **−0.08 (0.25)** | **0.14 (0.36)** |
| Number of theatres | 0.05** (0.03) | 0.06 (0.04) | 0.17***(0.04) | −0.09** (0.04) |
| Individual characteristics | Yes | Yes | Yes | Yes |
| Distance | 2.98*** | 4.53*** | 2.59** | 0.46 |
| | (0.90) | (1.17) | (1.25) | (2.11) |
| **User: Recent** | **-** | | | |
| **User: Past** | **−0.34***** | | | |
| | **(0.13)** | | | |
| **User: Non** | **−1.19***** | | | |
| | **(0.17)** | | | |
| N | 1,194 | 543 | 400 | 251 |
| Pseudo $R^2$ | 0.06 | 0.05 | 0.08 | 0.02 |

Notes: Dependent variable: Scale from 5 = strongly agree to 1 = strongly disagree with the statement *The* theatre*/s in my municipality contributes to making the municipality attractive to live in*. Ordered logit estimates. Huber-White robust SEs in parentheses allow for arbitrary correlation of residuals within each municipality. Level of significance indicated by asterisks: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Yes/No indicates dummies. Respondents living in Copenhagen, Frederiksberg, and Aarhus excluded from the sample.